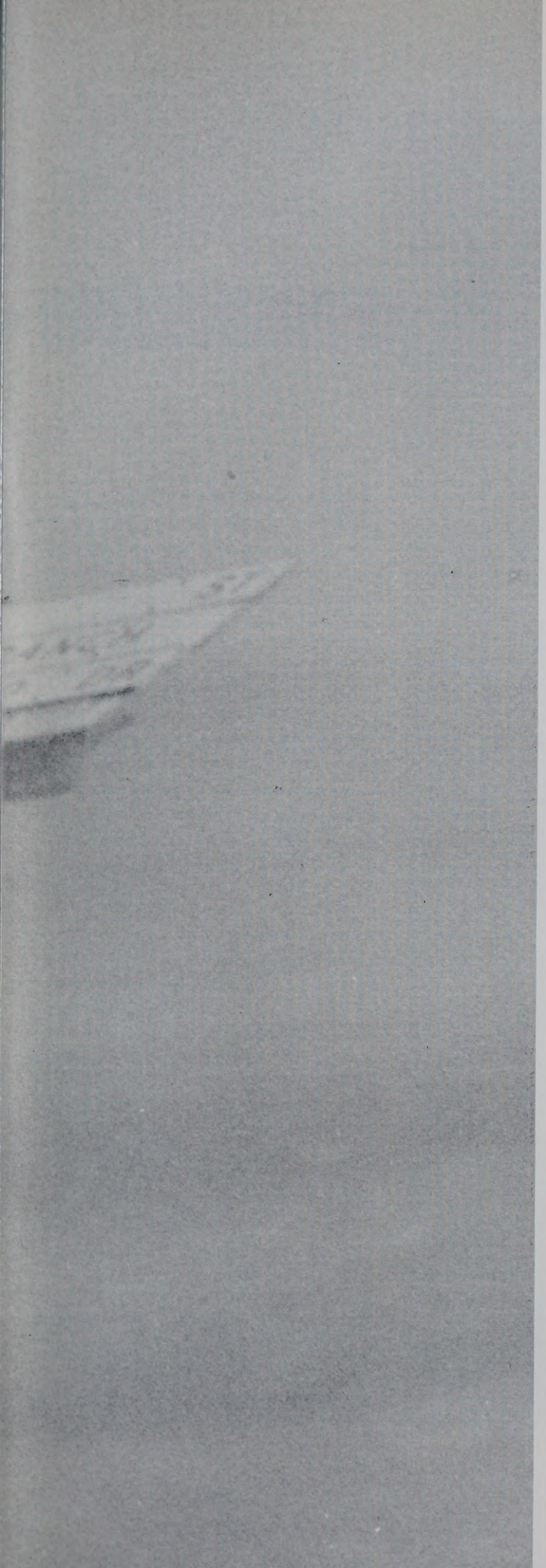
September 1970

Texas Highways

Padre Island Drive in Corpus Christi is out there somewhere, but Hurricane Celia's powerful winds pushing a driving rain makes it invisible. By the end of Celia's siege, these signs were knocked over and SH 358 was covered with debris. Other highways throughout the area sustained similar damage. The surrounding Gulf Coast area was in shambles and officials were calling Celia the most devastating storm ever to hit the Texas coast. Hurricane Celia will be featured in the October issue of *Texas Highways*.

Photograph by John Suhrstedt



Texas Highways

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About Our Cover

A setting sun casts long shadows over the white sands of Padre Island National Seashore as a boy and a girl enjoy the last days of summer on Labor Day weekend. Each summer thousands of tourists soak up the Texas sun on the 80-mile national seashore, one of the last entirely natural seashores in the nation. Padre's dunes, some 50 feet high, shift regularly, at times uncovering the remains of an ancient ship, at times hiding all beneath a smooth layer of golden sand. Photograph by Jack Lewis

Back Cover

HUECO TANKS STATE PARK—a unique spot in the Land of Contrast. When it rains in this arid land east of El Paso, water collects in depressions in the granite rocks and in the caves where it will stay for months at a time. A boy examines one of many pools after a heavy shower in July. In their long history, the tanks have been watering spots for Indians, settlers, and even a stagecoach line. For the story of this unique state park, turn to page 10.

Photograph by Herman Kelly

Frank Weir -

WHEN FRANK WEIR tackles a problem, he literally digs up the answer. He has done some of his most important work in deep trenches.

Armed with several note pads and a pocket full of No. 2 pencils, he will attempt to uncover almost any fact. He's a pro with a shovel and very efficient with a trowel and screen.

Frank Weir has dug around all over Texas, North Carolina, Washington, and parts of Europe. He's one of the army of concerned individuals who place a strong emphasis on the past. Frank Weir is an archeologist, and in July he began working for the Highway Department.

What do highways and archeology have in common?

"A lot," says Weir. "Look at Texas. Highway construction projects have uncovered many archeological sites throughout the state. Any time you disturb the earth, there is a strong chance you may uncover artifacts that can provide archeologists with a link to the past."

Ever since its beginning in 1917, the Highway Department has been a valuable contributor to archeology in Texas and its employees have uncov-

Archeologist Frank Weir estimates that this dog skull, found in an ancient Indian campsite near Georgetown on the South San Gabriel River where IH 35 crosses, is more than 1,000 years old. Discoveries such as this help archeologists piece together our past, says Weir.

-THD's Link With the Past

By **Frank G. Kelly**
Travel and Information Division

ered numerous archeological caches.

"It could be said the Highway Department has the potential of becoming one of the largest archeological teams in the country," Weir observed. "Only last week an employee called me concerning some relics he found at a construction site. I made a quick trip to the project, and after a brief survey of the area, I found three projectile points estimated to date between 4000 B.C. and 1000 A.D."

Ed Carl, engineer of surveys in Highway Design Division, recalled, "Just in the past decade the Highway Department has been responsible for discovering several important archeological sites."

The Inner Space Caverns, Texas' newest and most accessible caverns, were discovered near Georgetown by highway crews while working on IH 35. The caverns were scattered with remains of prehistoric mastodons, wolves, and Ice Age animals. Other significant sites have been uncovered near San Antonio and Marshall. Artifacts found in San Antonio on Loop 410 near the Salado River (*Texas Highways,* August 1963) were especially significant. Three Indian burial mounds were discovered along with projectile points, cutting tools, bones, and flint knives. Archeologists estimated that Indians may have been living on the banks of the Salado as early as 4000 B.C.

"Frank has a big job on his hands," Carl said. "One of his primary duties will be to chart all archeological sites in Texas so we can route highways around them when possible.

"We do not intend to go into extensive salvage operations," Carl explained. "We only want to try and conserve these historical sites."

Highway Design Division Director R. L. Lewis noted that Weir will also be working with the Department's new multidisciplinary design team which is studying a route location and highway development for SH 225 in Houston. The team consists of an urban sociologist and research economist from Texas A&M, an architect, landscape architect, urban planners, public information specialist and a staff of highway engineers.

"Weir will not be considered a permanent member of the team, but he will be available if needed," said Lewis.

State Highway Engineer J. C. Dingwall observed that this is the first time these specialists have been organized into a team. However, he pointed out that many experts have been employed as highway planners in the past. For example, the Texas Highway Department was one of the first highway departments in the nation to employ landscape architects, starting almost 40 years ago. Now, the hiring of a full-time archeologist adds another milestone to the Department's history.

A native of McAllen, Weir joins the highway team with a wealth of education and practical experience. From sketchy details, he can reconstruct almost any primitive Indian campground.

Whenever someone mentions the big job ahead, he smiles and says, "It will be a challenge. Of course, I can't do the work alone. I will need a lot of help from personnel in the districts. This is a large state and they can be of great assistance by simply informing me of a suspected archeological site."

Weir also plans to work with the State Antiquities Committee and the Texas Archeology Research Lab at Balcones Research Center.

"Texas is rich with archeological sites, possibly the richest in the United States," he claims. "I look forward to taking the Department's infant program and moulding it into something special."

The future of the past depends a great deal upon each individual, he says.

"Everyone alive today is a curator of the past. Much information about the past still lies buried in the ground just waiting for investigation. It is the responsibility of each of us to do his part to assure preservation of this information," he said.

"By studying the past, we gain a deeper understanding of how we came to be what we are today and what the possibilities are for tomorrow. *Knowledge of the past is essential to understanding the present and in preparing for the future."*

The principal source of information

When an archeological site is discovered on a proposed highway route, Weir surveys the area to determine its importance. Using a contour map, he shows Ed Carl the location of an archeological site found recently near Austin.

about prehistoric and most early historic settlement in this country is in the ground. Whenever there are no written sources, or when these sources are inadequate, archeologists must rely on the objects they find in the ground. A knowledge of their exact location, their relationship to a house floor, to a storage pit, or to a cemetery provides archeologists with an adequate record.

"The objects themselves are important only because of what they can tell us about the activities of the people that made and used them," Weir asserted.

"Almost any activity of man in the past that has disturbed the soil can now be detected in the earth by careful observation of changes in color, by chemical analysis, by differences in density and compactness of the soil, and by special photography. If past soil changes are disturbed before they have been investigated, this evidence is lost.

"Just as the geologist is interested in a rock from the moon as a record of the earth's history, the archeologist is interested in the soils of the earth to detect man's accomplishments of the past to enrich his heritage."

Archeologists disturb the ground when they dig, but by using special tools and detailed techniques, they can record the information before it is destroyed.

"Through careful and scientific excavation, it is possible to learn of achievements, failures, and knowledge of those who lived in this land before us," said Weir. "From the objects and other information in the ground, the past can be brought to life again and can become a part of the education of our children."

Texas has many archeological sites yet to be discovered, Weir asserted.

"We who are alive today possess the last opportunity to save, preserve, or somehow record a meaningful portion of the long record of man's experience and achievements.

"The Highway Department's efforts in this direction will certainly be of great value in preserving yesterday for tomorrow." ■

computers tapped for pavement power

HIGHWAY DEPARTMENT research engineers working with two research organizations have developed a system for designing highway pavements that will eventually mean a more economical and more efficient pavement for Texas roadways.

Considered by many highway engineers as one of the most important breakthroughs in pavement design in years, the new system will be implemented on a trial basis in several districts during the next year.

Over the past half century highway pavements in Texas have evolved from simple gravel pikes to modern concrete and asphalt surfaces. Changes have been slow. Trial and error testing, supplemented by research, were used to build most of today's pavements.

The modern era of pavement research began almost 10 years ago when the American Association of State Highway Officials sponsored a $30,000,000 road test to study pavement performance.

Frank Scrivner of the Texas Transportation Institute at Texas A&M and W. R. Hudson of the Center for Highway Research at The University of Texas, designing engineers who worked on the AASHO study, came to Texas following the project to begin applying their findings to pavement problems in Texas. After six years of work, the systems approach has emerged as a promising new technology toward pavement design. Now, working closely with Highway Department engineers, the college research organizations are implementing it on Texas roadways.

Ralph Haas, researcher at the Center for Highway Research, says the new system is important to modern engineering.

"Engineering problems have become more complex and comprehensive. The pavement design system will provide engineers with a guideline for solving these problems."

Haas said the systems engineer is not new or unique, and pointed out that engineers have always used a system to solve problems.

"Systems engineering is simply structuring or formalizing the way to solve problems," he said.

Using the pavement design system, engineers must recognize problems, define them, propose solutions, analyze these solutions, select and implement the best solutions, and check the predicted performance.

Computers will be used to record the many facts needed to make the system work. Information and statistics gathered on individual projects across Texas will be fed into the computer and analyzed. Feedback information from the computer will provide engineers with a broad selection of pavement designs that could be applied to his particular problem.

Some of the variables that will go into the computer include construction material properties, stiffness coefficients, interest rates, salvage value of each material, first-year cost of routine maintenance, annual increase in cost of routine maintenance, seal coat schedule and cost per application, initial serviceability index, and minimum serviceability index.

Haas emphasized that the supplier of the information is the user, and he pointed out that the feedback data system will not start out fast.

"Once completed though, an engineer can examine several economical pavement designs from more than 200 in the computer to solve his particular problem.

"By being formal about solving problems it forces us to answer many questions and choose the best solution," the researcher said.

Hudson credited the computer with making the systems design approach possible.

"The computer won't make the decision on a particular pavement, but it will give engineers a narrowed choice," he said.

District 19 is one of the first in the Department to begin using the pavement design system.

"We are now in the process of gathering basic data such as the stiffness coefficient of several highways," said Sawyer Wimberly, district designing engineer.

He described the system as a model that simulates what will happen during a design analysis period, provided factors are estimated correctly.

"It will give us a concept of how much one mile of road will cost to construct and maintain over a certain period," he said. "Engineers will also be able to predetermine when a road will need major repairs."

Jim Brown, senior designing engineer with Highway Design Division, called the system a broad concept approach that can have a tremendous payoff because of the money invested in pavements.

"To make the system work," he said, " it will also take a big effort from Highway Department personnel because many are involved in the systems engineering of pavements." ■

SICK TRANSIT

Reprinted courtesy of The Humble Way magazine.

The only way to solve the nation's traffic problem, some wag has suggested, is to turn all the traffic lights red, pour concrete over the ensuing traffic jam, and start over.

There's no denying that automotive traffic gets heavier each day as car ownership and use rise with the population curve and growing affluence. And motorists are certainly having a harder time getting to work and back each day. A solution is needed, all agree. But what?

An obvious answer would seem to be to get people out of their cars and into a mass transit system which could freight human cargo from urb to suburb in a more efficient and economical manner. And many cities are moving in this direction. Yet, giving some urban planners pause is the knowledge that in many metropolitan areas where mass transit systems have actually been installed, they have been largely ignored by the citizenry. Could it be, they ask, that people would rather crawl to work in a car than speed in a train or bus?

A brief search for the answer to this question will reveal that no one yet has undertaken serious, scientific research to determine what kind of transportation might be acceptable. To learn more of this, *The Humble Way* posed the question to Dr. Richard I. Evans, professor of psychology at the University of Houston and a nationally known authority on human behavior. The following interview presents some of Dr. Evans' theories and ideas as to why, up to now, mass transit has struck out with the masses.

Q: Dr. Evans, mass transit systems are being championed as the solution to urban transportation problems. Yet, most such systems have a record of failure. Why?

A: Largely because engineers and urban planners overlook or ignore the psychological needs of the individuals who are supposed to use the mass transit system. They design from the premise that if logistics and engineering are sound, the system will be accepted automatically by those for

whom it is built. There is almost no concern for the behavior of the individual and how he will react.

I can give you two recent examples of such systems which were begun with no thought as to whether people would use them. In Washington, D. C., one lane of a freeway was set aside during the rush hours for use by buses to shuttle people between downtown and the Pentagon. The designers assumed that because the bus could make the trip in 15 minutes compared to 30 or 45 minutes by car that drivers would prefer the bus. But in most instances, they didn't. They preferred to take their cars, despite heavy traffic. Another example is the ill-fated Flint, Michigan, study. This was a government-sponsored experiment in which planners went all-out to get commuters to ride to work on comfortable, air-conditioned buses which picked them up at their doors. Although tens of thousands of workers commute to work on Flint's jammed roads, fewer than 300 chose to ride the bus to work each day.

The planners had beautiful traffic flow charts and detailed statistics on work habits. But they had never dug deeply into the question to assess accurately whether commuters would, in fact, use the system once installed. As it turned out, few were willing. Another colossal failure was the Tokyo monorail. It was put in to speed people from the city to the airport, but no one uses it. In all these cases, planners simply assumed that if the system were available, and if it were fast, efficient, and cheap, people would use it. Since people would rather not use them, the systems have to be judged as failures since they didn't solve the problem they were intended to solve.

Q: You cite failures. Aren't there any examples of success in mass transit systems?

A: I can only cite those that may be successes in name only, because they are essentially coercive systems. That is, commuters use them because they virtually have no alternative. A good example is the subway system in New York City. It is one of the most elaborate in the world. Yet, there is no more resentful group of people in the world in respect to their subways than those who use them regularly. These people take the subway for reasons of immediate speed or because they can't afford to go any other way. They don't ride subways because they want to; they simply have no other choice. And they hate it.

Q: Why are people unwilling to use mass transit systems when the use of them seems the only rational thing to do?

A: We have to remember that man is not always rational in his behavior, at least in terms of what would be regarded as rational from an engineering point of view. All of us have certain built-in or conditioned psychological needs which must be satisfied. As a result, we behave in ways which may appear on the surface to be illogical.

One of these absolutely basic human needs is the need to "locomote," that is, to get around under our own power. Our entire physiology and mentality are geared to this need. Studies show that when people lose control over their locomotion, they may develop various psychosomatic reactions. For example, when people are confined, such as in a hospital bed, they show characteristic patterns of regressive behavior — they become childish and quarrelsome and refuse to do anything for themselves — and these symptoms disappear when they get up and around again. There's something of deep psychological importance to preserving your freedom of movement and your control over it. And when this is limited, you resent it strongly.

There's a most important socio-psychological dimension here. When you build a mass transit system, you are not starting brand new with mankind with the power to say, "Here's the way you are going to move around." You are inheriting man as he is, with a tradition of personal freedom which he has always enjoyed in respect to his personal locomotion. That's why, in almost every case, individuals are willing to endure a certain amount of inconvenience and inefficiency in exchange for control over their own locomotion.

Q: What would happen if government were to make people use a mass transit system by removing all other alternatives?

A: It is very unhealthy for a culture to place it under duress by forcing it to engage in some sort of behavior with no options. As I mentioned earlier, New York City is a good example of this. Congestion has forced people into a system in which there are essentially no options. Studies by the Cornell University Medical School show that citizens of New York are under tremendous pressures, and the levels of tension, anxiety, unhappiness, and distress are very high. If enforced use of mass transit should come, it would be undesirable from this standpoint. Our society may come to this, but it would be better for people if it didn't.

Q: Is there anything we can do to change this need in people to control their locomotion?

A. Not really. The need to control one's locomotion probably has a biological basis. It is innate. The need can

be modified or sublimated, but not eliminated. For example, a person can substitute riding a horse or driving a car for walking. But these are still means of locomotion over which the individual retains essential control. When he boards a train, a bus, an airplane, or even a car which someone else is driving such as in a carpool, he loses this control to varying degrees. This may produce the sort of tension and anxiety I mentioned. So, quite naturally, people have an instinctive urge to avoid placing themselves in such circumstances. A man who must beat down this instinct twice a day, every day, pays a considerable price in terms of psychological health. Doing so drains away much of his energy which could be used productively in other ways.

Q: But don't people get tired of driving their cars in bumper-to-bumper traffic?

A: I suspect research would show that they are not as bothered by it as you might think, or even as they might say they are. There are several psychological dimensions involved here. For example, there's the need for privacy and the desire to select one's companions. Driving to work, the commuter may have the only moments alone he will enjoy all day. If he has a passenger, it may be someone whose presence he values. He has the option of listening to the radio. And if he chooses to do so, he has the option of which station he will tune in. Under these circumstances, time can pass rather quickly and pleasantly. If studies were made, I believe these would be found to be very potent factors, and so far they have been almost completely overlooked.

Also, there's the fact that people become quite fond of their automobiles. Their cars become an extension of their own personality and ego. People enjoy being in them and using them. Chances are, they will continue

to prefer to use their cars, right on up to the point of no return — when traffic becomes so heavy that it stops altogether. At that point, they may turn to some other means of transportation. But they won't like it.

Q: You mention the need for research. Has there been much research done in the psychology of mass transportation?

A: Virtually none. There have been a number of superficial public opinion surveys which provide simple demographic information. Engineers assemble data on traffic flow and the like. But much basic research is needed to find out what will be acceptable to people within a human and psychologically sound framework. And this involves much more than asking a few simple questions. Once some realistic answers are acquired, then transportation systems can be designed which people will accept. And once such a system is in use, there should be a constant feedback on the psychological dimensions involved.

Q: How would you go about designing a mass transit system that would take psychological needs into consideration?

A: We don't really have enough information on hand to know where to start. In other words, before we could start we must define the various psychological dimensions of this problem through research in depth. But whatever form it might take, it would have to be a system with more concern for flexibility than for efficiency. I believe that any system that doesn't allow the individual some freedom of choice is one which exercises too much control. If some good research were done, some good ideas would emerge.

I suspect that an acceptable system would involve limited use of the private automobile. It might allow a person to drive to some point close to his destination where he would park and transfer to a bus or train for a short ride. But there are not likely to be universal answers. Each city is an altogether different entity. Plans would have to be designed for the particular geography of each metropolitan area. What might work in one place might fail in another. The region should dictate the plan.

Q: Would people change their way of life before giving up their mobility?

A: I think so. I think our transportation technology has already passed the point of man's willingness to operate within this kind of rationality. One product is urban decentralization, and this is occurring far more than people realize. People who can afford to do so are steadily moving out of the central cities. Businesses, too. Satellite towns and small, integrated communities are springing up. Forces with interests in the central city keep trying to stir up interest in rebuilding it. And there are flurries of activity in this direction. But then, after some cleaning and refurbishing, the exodus starts all over again. It's the whole pattern of human behavior.

If this weren't happening, I'd be very concerned for the future of man. Without this type of movement, he would soon become a robot. There's no way a man can maintain any freedom and work in a central city system without becoming a robot. There's just so much crowding people can take. Whatever we call humanness means that we maintain power of choice over ourselves. When we delegate this to a machine or some other force, we lose a bit of our humanness.

Q: Is mass transit an inevitable development for all American cities? Are there alternatives to it?

A: Well, it's possible that technological advances might eliminate the needs for central cities and for much of the mass transit system as well. As I pointed out, cities are being decentralized rapidly. Eventually, the central city may become nothing more than the seat of local government. And communications techniques — such as telephones, videophones, and television — are already available which would eliminate the need for people to travel around physically. The man of the future may, in many instances, simply "call in" his work to an information storage system, for example. Travel might then be undertaken chiefly for recreational or social reasons.

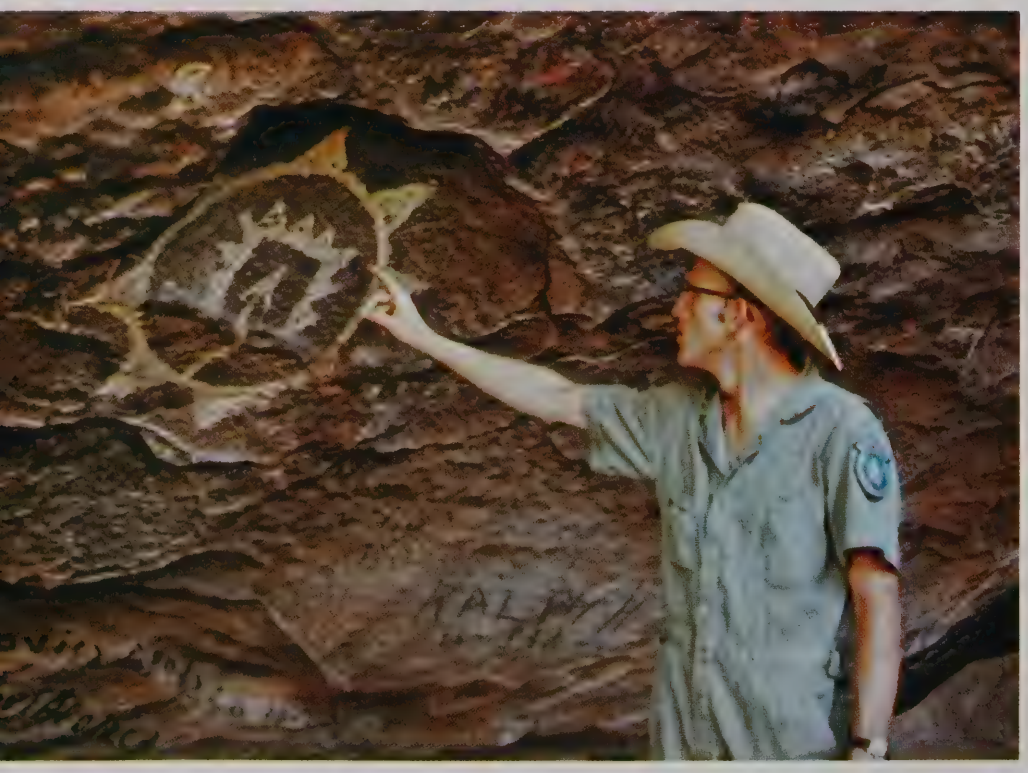
For the immediate future, planners should consider using modified procedures of transportation rather than attempt totality. They should strive for a system which affords maximum opportunity for the individual to retain control of the system. Wherever mass transit has worked at all, it has been through better use of a modified system with many options. Engineers and economists must remember that the absolutely rational approach rarely is the most effective way to deal with human problems. We must accept the fact that man still has certain needs that just can't be solved by engineering. And before they do anything, planners ought to learn more about people, about their psychological needs, and what they will be able to accept. Until they do, they will be planning in the dark. ■

The Hueco Tanks

By **Marjie Mugno**
Travel and Information Division
Photographs by Frank Lively

They come by car now instead of horseback or stagecoach to visit one of Texas' newest and most unique attractions, the Hueco Tanks State Park, a 738-acre tract 22 miles northeast of El Paso.

Once a way station for weary travelers and Indian war parties, the Hueco Tanks even served as a watering place for the Butterfield Overland Mail and for pioneers traveling west in covered wagons to the California gold mines.



Most of the paintings on the walls in Comanche Cave were done by the Mescaleros, marauding Apaches. Little of the rock art can be classified as doodling, either; it all portrayed some part of their lives. This unusual pictograph probably represents the sun and has religious significance, says Larry Damron, one of the park attendants.

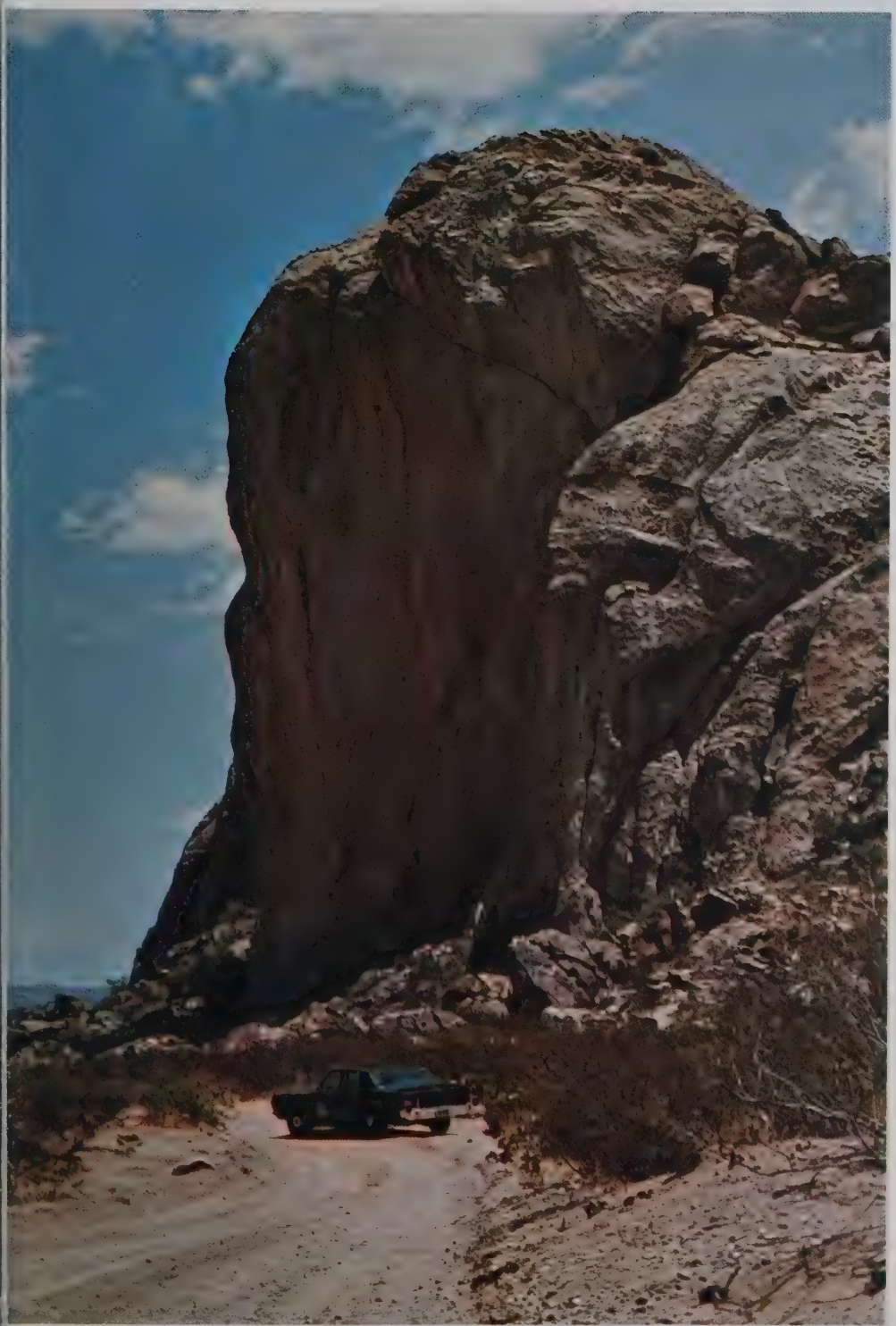
Today's travelers come not to drink the water in the natural reservoirs formed by depressions in the giant granite rocks, as man and beast did so long ago, but to wander over the rocks, to explore half-hidden crevices, and to examine pictographs left by peoples in centuries past.

The Hueco (hueco is a Spanish word meaning hole or hollow and pronounced way-co) Tanks have been a favorite campsite because it was the only watering site for miles around. Sandals and basket ware found in the caves indicate that an early Pueblo tribe inhabited the area around 300-500 A. D.

No Indians camp there now, but their past lives on through the cave and rock drawings which tell of their adventures. Perishable and immovable, the pictographs are outstanding examples of Indian art.

The rocks, geologists say, were once a seething puddle which boiled and bubbled up through a weak spot in the earth's changing crust. The glowing mass did not reach the surface, but after it cooled and hardened, erosion cut the softer rocks away, leaving it exposed. Further erosion formed depressions that fill during rains.

"Most of the tanks are exposed and water dries rather quickly in the sun," says Larry Damron, one of the park



A dusty dirt road, now being rebuilt by District 24, leads to the Hueco Tanks. The tanks, about five and a half miles off the El Paso-Carlsbad, New Mexico, highway, are a landmark in the area. Some of the great sheer granite rocks rise 400 feet high.

attendants. Some huecos, however, are sheltered by overhanging rocks and protected from the wind. Less than one inch of rain fell last year, but there still is water in these tanks.

"Most people are disappointed because they think there will be enough water in the tanks to go fishing, but that is not the case," says Damron. "The huecos are very small and found in the rocks closer to the top. You have to do some walking to get to them. And there are no fish, no frogs in the water."

Can tourists drink the water?

"We discourage it. The water is not purified. Those of us from rural West Texas are adjusted to the water," says Damron, who comes from Crane, a small town south of Odessa. "Water in the shallow tanks has a heavy mineral taste, but it is sweet and clear in the deeper huecos."

Apaches, Kiowas, and Comanches camped there not only because of the water, but because the caves, canyons, and overhanging cliffs formed an excellent fortress. It was in Comanche Cave that the last great Indian battle in El Paso County was fought. There are several versions of this battle, but the most widely accepted tale is this: some early settlers tracked marauding Apaches (called Mescaleros) across the desert to the tanks, besieged them

The pictographs at the Hueco Tanks are some of the most outstanding examples of Indian art in the state. These are fine specimens. Painted on the west side of the wall in the Cave of the Masks, they were probably done before 1500. Indians may have dressed up as kachinas (ancestral spirits) and worn clown masks like these. Photograph by Herman Kelly.

Both entrances to this canyon, located in the north end of the park, are covered by brush and easily overlooked. One of the few places with turf-like grass, it is a nice spot for a picnic. Park attendant Larry Damron says he can even arrange a waterfall — that is, if it's been raining so the water can spill over the rocks.

The Hueco Tanks

in the caves, and finally slaughtered about 150 of them several days later.

A distinctive landmark, the Hueco Tanks can easily be overlooked by travelers oblivious to the legend and intrigue of the rocks. They are about five and a half miles off US 62-180.

"Imagine four piles of rocks scattered over 738 acres, with one pile about 400 feet high, and you can get an idea of the size of our park," says Damron. "A lot of the park is in vertical relief, and this draws mountain climbers from El Paso who practice scaling and rappeling the sheer cliffs."

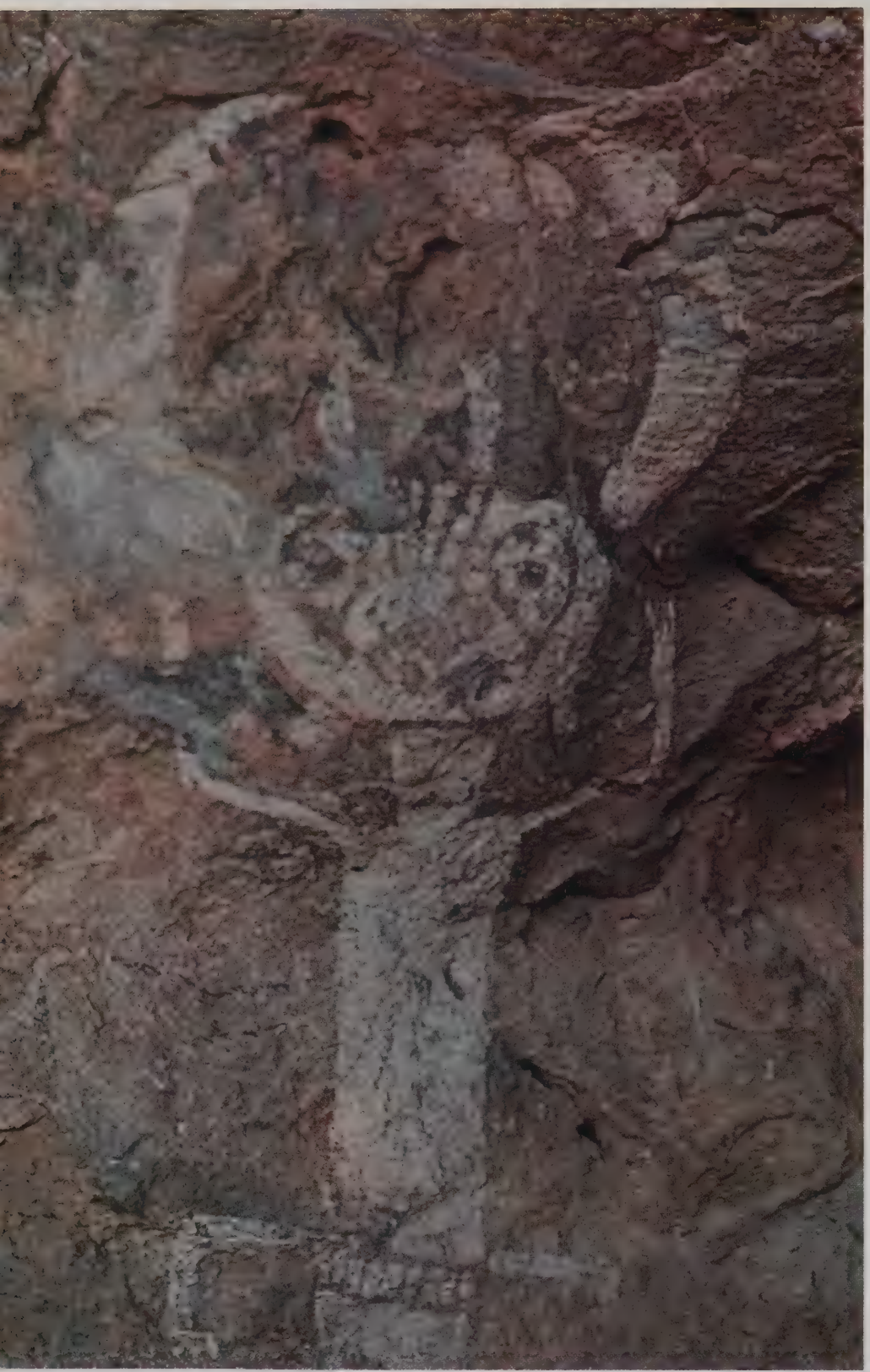
There are two dams in the park area. A dirt dam is located on the west side of the park. The imposing structure is 30 feet high, 100-150 yards long. It's imposing all right—but it doesn't hold water. It was built several years ago by a real estate man hoping

Here is another well-preserved pictograph. Blowing sand has done some damage to some of the paintings, but the greatest damage has been done by vandals. Forty-two per cent of the paintings at the Hueco Tanks are in white, but red, green, and black are prominent colors, too.

to use the Hueco Tanks as a drawing card for a development, says Damron. The deal fell through, however. In fact, the man was charged with five counts of land fraud. (He sold some land twice and even "sold" part of a nearby military reservation.)

The other dam is behind the residence house at the entrance of the park. It's neither as big nor as imposing as the other—but it *does* hold water. This one was constructed by ranchers.

Damron is always finding some new place, some rocks he has never seen before. One day while scrambling around on the rocks he came across something similar to a mulberry tree. He was hungry and ate some of the little red berries. He has also found wild grapes and a mesquite tree with a dead limb that bees were using for a hive. Rabbits and birds of all sorts scamper around. Rock squirrels and deer come early in the morning or late in the afternoon to water and a few thirsty



Because of the durability of the rock, most of the pictographs have been fairly well preserved. This one, located in a small shelter at ground level in one of the caves, may represent a masked figure and is known locally as a vinegaroon or whip scorpion.

The Hueco Tanks

bobcats appear at night.

Some of Damron's favorite pictographs are found in the Cave of the Masks. The clown masks were worn by the Pueblo Indians during religious ceremonies when they dressed as kachinas (ancestral spirits) and were probably drawn before 1600. Incidentally, says Damron, through a crevice in the cave one can see about 60 miles into New Mexico.

Damron is like a protective bear

The Art Gallery

In his book, *Rock Art of Texas Indians,* Forrest Kirkland writes:

The Puebloan pictographs at Hueco Tanks are skillfully drawn and include mountain sheep, deer, serpents, birds, kachina-like figures, masked heads, blanket-like designs, and other objects too highly conventionalized to be easily identified. These pictures are in a wide range of colors—red, black, white, yellow, brown, gray, blue, and green. They are found in large numbers at all parts of the site.

These paintings are typically isolated single drawings . . . only in one case has the artist indicated action . . . A second style of painting is much less common than the Puebloan, but equally distinctive. These pictographs are historic; white is the most frequently used color, humans and animals are depicted with white solid bodies rather than being outlined, and scenes are portrayed in which humans and animals are related to one another in

with cubs when it comes to the pictographs. He won't take anybody to the more inaccessible sites unless the person impresses him as being trustworthy.

"Lots of this stuff is hard to find," says Damron, "and that's all right with me. Until we can get protection for the park and pictographs, we're just as happy people can't find some of them. Even when I give explicit directions, people easily pass by a pictograph. When I take them to it, they say, 'My gosh, how did I miss it?' "

Acquired as a gift in November,* the unique park is a major geological and archeological find. Now that it is an official part of the state parks system, the Hueco Tanks are being spruced up. In mid-August, District 24 began construction of the 5.5-mile entrance road. Future plans call for construction of new facilities, including residence and maintenance houses and better picnic facilities.

**Two other unusual attractions, Dinosaur Valley near Glen Rose and Pedernales Falls near Johnson City, became state parks at the same time. These were purchased under a $75 million bond program passed by voters.*

Paul Schlimper, assistant director of park services, Texas Parks and Wildlife, says they plan to restore the area and develop well-marked interpretive trails so that the pictographs can be fully appreciated and understood. Rocks will be sandblasted and markings such as "Seniors '69" will be removed.

Until the interpretive trails are designated, Damron believes an archeologist should be stationed there to answer questions. He is also afraid something of historic value might be inadvertently destroyed during the park's renovation.

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what appears to be storyteller form. They are also more dynamic than Puebloan paintings. Human figures are in motion, they dance, make love, cavort. Since the Mescalero Apaches were the principal tribe to frequent the Hueco tanks in historic times . . . paintings have been tentatively ascribed to the Mescaleros.

The most intriguing Mescalero paintings . . . are in Comanche Cave . . . On the walls of the cave are many names bearing dates of 1849 and later. Most of the pictures in the cave appear to be historic. One set of conspicuous pictures . . . look somewhat primitive, because they were over-painted by some of the names. They pictured men wearing chaps with swords, riding horses, and were probably the work of white men . . . care was taken by the artists at Comanche Cave, perhaps because they were portraying Indians on what was probably a ceremonial occasion. . . .

The human figures, all in heavy white paint save one which is blue, mostly wearing headdresses which look like rabbit's ears, are unlike most other paintings at Hueco Tanks in that sexuality is the dominant motif. One of these Mescalero style figures represents the Humpbacked Flute Player, an ancient and widespread deity of the Southwest. . . . The flute player is usually shown playing this instrument in some kind of erotic pose. His obvious associations are with fertility and reproduction, but some tribes seem to associate him with rainfall, game, hunting, and tracking.

Historic pueblo peoples frequently established shrines in small caves and depressions near their villages. These contained pictures, dolls, idols, prayer sticks, and other sacred objects. The mask paintings in secret niches and high crevices at Hueco Tanks undoubtedly represent the remains of similar shrines. . . It seems unlikely that Hueco Tanks were ever more than a temporary residence of Puebloan peoples. But because plenty of cool, life-sustaining water could always be found there, it may have been regarded as a sacred or special place to which pilgrimages were made from Puebloan villages along the Rio Grande. Or, perhaps hunters or travelers periodically camped at Hueco Tanks. In either case it is likely that these Puebloans set up shrines, and by their prayers and rituals promoted rainfall, fertility, health, or other things, or in the case of travelers, guaranteed the safety and success of their journey.

. . . . not all the Puebloan paintings at Hueco Tanks had as serious or as important a motivation as the mask paintings . . . . possibly Indians returning from visits to kinsmen in the north commemorated the designs they had seen or the deeply moving experiences they had just had by painting the rocks of Hueco Tanks. Perhaps some of the mask paintings and masked dancers . . . may have been instructional, painted to teach children the nature of supernatural beings, just as kachina dolls served to instruct the Puebloan children. Perhaps some of the Puebloan pictographs were designed to serve as magical aids to hunters and warriors who passed this way.

The historic Indian pictographs at Hueco Tanks, the bulk of which have been ascribed to the Mescalero Apaches, are somewhat more difficult to interpret than the prehistoric paintings.

The Hueco Tanks

"A lot of people ask me questions I can't answer," he says. "Besides, this area has not been systematically worked by an archeologist. We have quite a bit that has never been examined. There are three pueblos (old adobe or stone communal houses) within 15 or 20 miles of the park, and the remains of another might still be found near the tanks."

Damron has been working at the park since January. He and another attendant, Jose Sierra, work with Danny Bedall, park superintendent. Sierra is a Tigua Indian. There are 10 other Tigua Indians working on the grounds. They are part of the displaced branch of the Tigua-speaking Pueblo Indians who live in Ysleta Mission in El Paso.

The Tigua Indians have a colorful history, too. In 1680 the Tiguas were forced to flee from their homes when Indians in the upper Rio Grande Valley revolted, killing many Spaniards and driving others southward. The retreating Spaniards forced some Tigua Indians to accompany them as captives. All contact with these Indians

In the late 1850's, the Hueco Tanks were used as a way station for the Butterfield Stage. The horses were put in these rock corrals, each about 10 feet wide and 25 feet long. The corrals and way station will be restored. A cave containing pictographs and a water tank can be seen above the corrals. Photograph by Herman Kelly

was lost until 1965 when they were "discovered." They lived in unbelievable squalor until they won government recognition in 1967 (See "Trail of Tears," *Texas Highways,* April 1967). The Hueco Tanks have opened up a new avenue to economic relief for the Tiguas, who in turn provide much needed manpower for the park.

Damron often works 12 hours a day.

"My job right now is just cleaning the park, repairing vandalism, and removing old structures not being used. When we have time, we are more than happy to show people around the park."

About 200 carloads of visitors stop by the Hueco Tanks each week.

"Some people think they are human flies when they come out here and then sprain an ankle. Sometimes the kids think they are heroes and climb up on the rocks. They get scared and then we have to talk them down. Last Easter a boy fell about 15 feet. He was lucky, though, and only had a slight concussion," says Damron.

He has fun with people from the east who expect "a full-blown Indian war to be raging." When tourists see him and Jose Sierra ("a cowboy and an Indian") standing together peacefully—"he's not after my scalp and I'm not after his skin"—they're a little disappointed, he marvels.

Monday would be just another workday for the park attendants if tourists would only learn to put their trash in barrels, which are located all over the park.

"Sometimes it takes us three days to pick up trash after a weekend," declares Damron. "I have seen people leaning up against a trash barrel and drop their trash on the ground! We had 1,100 carloads on Easter Sunday and it took us a full week to pick up the trash on the rocks."

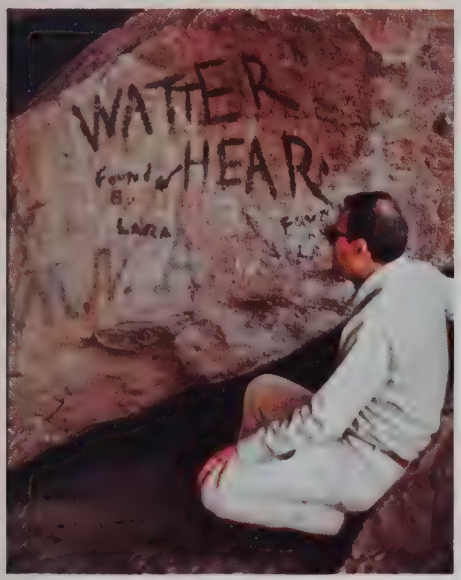
Does he recommend the park as a tourist attraction?

"If someone is looking for a good time, perhaps he shouldn't stop. This is not intended as a recreational park," asserts Damron. "We don't allow overnight camping and probably won't in the future. This is a historic park. This is a place for people who are interested in history, in what this country was once like. It's a strange park, a fantastic place. You have to wander around to get the feel of it."

Damron feels this sense of history deeply.

"Here's an area that has been used by people for at least 2,000, possibly 3,000, years or longer. I suspect that as long as there have been people in the El Paso area the Hueco Tanks have been used. When nobody is out here, especially in the morning, it is so quiet you can almost feel the silence. If you have any imagination at all, you can feel the bigness of the country, the history of the place.

"I've spoken to many tourists who say driving through West Texas is just like driving through nothing. It's big, open, empty, with little or no vegetation except an occasional mesquite or cactus tree. Those people call this 'God's forsaken country.' West Texans call it 'God's country.' Most West Texans, whether they admit it or not, are in love with this country. Tremendously so. And the Hueco Tanks are a focal point for all these feelings." ■



His spelling was bad, but his intention was good. Some weary traveler probably painted this sign, "WATTER HEAR," before 1900 to let others know about the cool, clear water in Comanche Cave. Because it is sheltered from the elements, the hueco has always been filled with water.

Indians who used the tanks as a temporary abode ground their corn in metate holes, which are all over the park. When the holes got too deep for this, the Indians used them to store water so they wouldn't have to make as many trips to the huecos. There are some pictographs on a wall to the left of Rudy Burrola, a District 24 employee shown inspecting the holes.

GIT 'IM, LARRY—Pigging string in mouth and loop in hand, Larry Roberts rides in hot pursuit of a fleeing calf during the jackpot roping at Hill's arena near Austin. This type event is one of Roberts' favorite in rodeoing.

WEEKEND COWBOY

By **Frank Lively**
Editor, Texas Highways
Photographs by Frank Boyd

"You're out," the man yelled.

It wasn't an umpire announcing the sad news to some angry batter. And it wasn't a referee shouting the end for a groggy boxer.

Instead, it was good news to the man on horseback. As his horse leaped forward in pursuit of the fleeing calf, Larry Roberts knew the words meant he was ready to rope. Twelve feet from the calf Roberts threw his loop—and missed. An empty loop is all he got for his $30-entry fee in the annual Travis County Sheriff's Posse Rodeo.

"There's always some old boy standing near the roper's box," said Roberts, "who'll yell to let the rider know how he's doing." If the cowboy had yelled "no" or "you hit it," Roberts would have known his horse had jumped too soon, hit the rope barrier, and a 10-second penalty would have precluded any possibility of his winning.

Larry Roberts of Austin is just one of several thousand professional Rodeo Cowboy's Association members who spend their weekends rodeoing. In addition, there are also thousands of amateurs who dare the dangers every weekend. Rough, tough cowboys used to be a breed apart. Today, they may come from the Bronx, own their own

business, and go to concerts. In the old days, says Roberts, "rodeos were cowboys on cowponies. Today they are athletes on racehorses."

Rodeoing reaches its zenith in Texas where hundreds of rodeos, including amateur and those sanctioned by the Cowboy's Association, are held each year. On any weekend during the summer a person can find a rodeo within a few miles of his hometown. Three of the biggest rodeos in the United States are held in Fort Worth, Houston, and San Antonio—all indoors. And the Mesquite Championship Rodeo, which bills itself as the longest continuous "big league" sports attraction in Dallas, is held every Friday and Saturday night from April through Labor Day weekend.

A natural outgrowth of the cowboy's art, the rodeo has been a popular pastime in Texas for more than 80 years. With no games or other forms of amusement on the lonely range, it was only natural that the cowboys turned to the things they knew best—horses, cattle, and ropes.

Pecos claims to be the site of the first rodeo held in Texas. Supposedly, it all started with a friendly argument between Hashknife riders and the Lazy Y's, between NA's and the 101's. Who was best with a rope? Who was fastest at tying a calf?

So they decided to settle it on July 4, 1883, on the streets of Pecos. Attendance was free and the ranches staked the purses and barbecue. And Pecos has held a rodeo every year since then.

Carl A. Studer of Canadian claims his town held the first "real rodeo" during the week of July 4, 1888. Laurel Leaf riders planned it, not for the ranch hands as usual, but for the town itself and rodeo as we know it was born.

In 1936 the Rodeo Cowboy's Association was organized and the standards of rodeoing were raised. RCA represents the cowboys' interests and regulates their personal conduct and types of rodeos to be entered, provides insurance for contestants, and maintains a system of fines and blacklists to regulate managers' and contestants' activities.

To become a member of RCA, the cowboy must apply for a permit that allows him to enter RCA-sanctioned events. Once a "permit boy" has won $1,000 in rodeoing, he is eligible to become a full-fledged, card-holding member of RCA. Today there are about 5,000 members, but there may be no more than 200 full-time cowboys. Most are weekenders like Larry Roberts.

If today's cowboy is a different breed from his predecessors, then Roberts may well be a breed apart from his contemporaries. From sunup to sundown he shoes horses for a living, which doesn't leave much time for practicing his rodeo specialty—calf roping. Thirty-year old Roberts has been rodeoing ever since he entered Southwest Texas State University in San Marcos when he was 19.

Getting involved with the sport, says Roberts, is a lot like taking a dare. "Then you git addicted to it. One thing for sure, it damn sure idn' fun."

TIE 'IM, COWBOY—After he has roped the calf and thrown it, Roberts must tie three legs within two seconds if he expects to win anything. If the tie is insecure or the calf gets up, the roper is disqualified.

For many years Roberts was a rodeo rider—bareback, saddle bronc riding, and bull riding. A few years ago a bull broke seven of his ribs, two of which punctured one of his lungs. Wasn't that a serious injury?

"It didn't feel too good," said Roberts in his quiet drawl.

His wife Tami put her foot down. "Give up bull riding, or me and the children." But Roberts held out for another year or so before he began to specialize in calf roping, which he has been doing for the past three years.

Although she continues to be apprehensive about her husband's rodeoing, Tami admitted, "I finally decided if that's his thing, let him do it."

Their two daughters, Kelli and Keri, are busy being little girls, but son Kevin can't decide if he wants to be a policeman or a roper.

Roberts became interested in horses' feet when he was a boy in Greenville where he hung around his uncle's horse-trading barn. He said he noticed most of the horses'

feet were neglected. He read all the books he could find about horses' feet and about shoeing. When he was 10, he trimmed his first hooves.

Roberts learned to shoe horses from an old army sergeant in Austin, and the shoeing helped to pay his way through college where he majored in vocational agriculture. After he graduated, he tried teaching for a few months but quickly knew that it was not for him.

Although shoeing horses is not considered as dangerous as rodeoing, nevertheless Roberts has had his share of accidents. Once he got kicked in the head and called his wife to come home because he was hurt, but when she arrived home in a panic he had no idea that he had called her. Tami insists that he call her once or twice a day to let her know that he's safe.

One morning this summer he left his house at 5 a.m. bound for a long day of shoeing. His first job was to shoe a mare in heat. When Roberts arrived, he found a stud in a nearby pasture had created a "really nervous condition." Roberts tried to catch the mare. He chased and chased and chased—for one hour. Finally, he gave up in disgust and drove to the next job.

This time he was supposed to shoe a horse that had never been shod. Roberts found the horse in a small pen and got a halter on it. That's when things began to happen. The horse bolted, dragged Larry through a chicken coop, a barbed wire fence, round and round the lot, and finally knocked him unconscious. Roberts was out for about 20 minutes.

"I lost a lot of time taking a nap I hadn't intended to," he complained.

He returned home dizzy and disgusted.

"You know, horses are a lot like women," explained Roberts. "You don't know if they're gonna kick or what when you pat 'em on the rear."

He gets $10 for putting new shoes on a horse, $8 for reshoeing, and as much as $50 to shoe a Tennessee walking horse.

Often horse owners are shocked when they find out their horses need to be reshod every six to eight weeks, says Roberts. If a shoe falls off after six weeks, the owner thinks Roberts may not have done a good job. Roberts points out that hooves, like a person's fingernails, grow out and as they grow out they begin to crack and spread, the nails come loose, and the shoes fall off.

Since horses have to be reshod so often and it costs so much, wouldn't it be better if the owner learned to shoe his own horses?

"My best customers are the ones I taught to shoe. They try it one time and then they call me to come and shoe 'em," said Roberts.

"I'd say 99 percent of the horse owners don't know anything about their horses' feet. And that other 1 percent don't know as much as they think they do.

WEEKEND COWBOY

"When I shoe a horse, I do corrective shoeing. I do each hoof individually, fitting the shoe to the foot. Some guys don't. The difference in shoeing horses is the difference in the farrier."

Roberts uses a portable forge to heat shoes for cutting and shaping.

"It never fails. I'll be standing there in August, hotter'n hell, no shade, choking and coughing on smoke from the forge, and some damn fool will come walking up, sniff, and say, 'Don't you just love the smell of coal smoke?' "

Shoeing horses keeps Roberts in roping money and one of his favorite events is jackpot roping. Cowboys put up their entry fees to cover the cost of the stock and rent of the arena, and the rest of the money is split among the winners. There is no charge for spectators.

Roberts never misses the jackpot roping on Labor Day weekend at Cecil Hill's arena in Oak Hill on the southwest

SHOEING SPECIALIST—After he clips a hoof, Roberts files it smooth and even (left), measures the hoof against a shoe, heats the shoe and shapes it (above), and then wipes the sweat from his face after the shoe has been nailed on. The farrier carries an anvil and portable forge in the back of his pickup.

side of Austin. More than 100 ropers from Texas, New Mexico, Oklahoma, and Louisiana will gather for three days of calf roping.

"Ropers will go a long ways to rope a calf," explains Roberts.

He said calf roping "idn' fun," and on this particular weekend it becomes an endurance contest. Each man ropes a calf. Then the roping starts again and may go on until one or two in the morning before a break is called. Roping commences again at eight and continues in the same way until each entrant has roped 10 calves. Best average time wins. When a cowboy gets sleepy, he takes a short nap wherever he happens to be.

The split-second teamwork between the roper and his horse is the ultimate demonstration of the rodeo cowboy's art. The rider sits tense on his horse, waiting. He begins to swing his loop, then he signals the man at the chute gate,

WEEKEND COWBOY

the calf bursts forth, and the race against time is on.

As the loop settles over the calf's head, the horse comes to a screeching halt, jerking the calf over, and the rider leaps from the saddle. Unlike most ropers, Roberts jumps off the right side to save time in crossing under the rope to get to the calf. If the timing is right, Roberts should reach the calf just as it's getting up. In a flash, he grabs the calf by the right front leg and in the right flank and throws it to the ground.

As the calf is going down, Roberts whips the pigging string (tying rope) from his mouth and, in one continuous motion, loops it over the front leg and throws the string straight out from the calf's body, and with a wild windmill swing he grabs the two hind legs, shifts his body around to get the calf's hindquarters and back between his legs, pulls the hind legs over the front one, reaches out and grabs the string and wraps it twice around all three legs, once around the two back legs, ties a hooey (half hitch), and then flings his arms wide to signal he's finished.

The tying operation should take no more than two seconds.

"If it does," says Roberts, "you may as well pick up your piggin' string and go home."

Calves usually weigh between 250 and 350 pounds, and Roberts is five-seven and weighs 150 ("That's my winter weight."). The difference in size does not make that much difference, claims Roberts, because calf throwing is all in the timing.

How important is the horse in calf roping?

"Some guys say the horse is 75 percent of roping and the cowboy is 25 percent, some say 50-50. I think the horse is 95 percent. A good roping horse will cost anywhere from $2,500 to $5,000, and is pretty much of a machine. He's fast, gets his position and holds it until you rope, and then he keeps the right amount of pressure on the rope."

Roberts also dispels the picture of the stereotype cowboy who gets drunk and raises hell. He drinks an occasional beer, but has discarded more unfinished ones than he's consumed. There is not much time or energy for night life after a rodeo, says Roberts, because usually he's shod horses all day, driven in a hot pickup pulling a trailer and horse, and then roped in the rodeo. Sometimes it is 1 a.m. when the roping event is over, and by then all Roberts wants is a place to sleep.

Millions of spectators jam rodeo arenas each year throughout the United States, making it one of the best attended sports in the country. Yet, rodeo has been largely neglected by television and newspapers. This is a sore spot with Roberts.

"Why is it that you can watch a bunch of cars smashing

WHAT NEXT?—Roberts takes a break from his horse shoeing chores and contemplates his future. He never knows when he will enter a rodeo "until I git there." This fall he may stay close to home and practice roping.

HIGH STEPPER—Mrs. Karl Benson of Hidden Valley Ranch near Austin puts one of her Tennessee walking horses through its paces—flat walk, running walk, and canter—after Roberts has put on new shoes.

into each other on any weekend in the summer, but you never see a rodeo on TV?"

An eastern concern has begun weekly hour colorcasts of rodeos, and guess which western city was picked. Wrong. The programs originate in Cowtown, New Jersey, where rodeos are held from June to September. Triangle Stations, producer of the shows, built auto racing into the nation's number two spectator sport in the last six years with its almost weekly TV specials.

Roberts says he may stay close to home this fall and practice his roping. This year he paid $100 entry fees at the three big Texas rodeos—Fort Worth, Houston, and San Antonio—but he did not place. He has not won any money rodeoing this year.

Why does he keep roping since the monetary returns are so slim?

"Probably it's the competition," said Roberts thoughtfully. "Roping is an individual competition, it's not like a team sport. And, of course, you keep thinkin' you're gonna make it at the next rodeo. And it's gambling, too. You're bettin' $100 to $2,000 that you're better than a hundred other ropers.

"The competition is tough," added Roberts, "and it's getting tougher all the time." ■

AWARDS

(As of September 30, 1970)

40 Years

District 17
Willie F. Denson, Maintenance Construction Supervisor II
District 19
Austin Pruitt, Maintenance Technician II

35 Years

Finance Division
George A. Brooks, Director
District 2
Lewis L. Herring, Engineering Technician IV
District 4
Archie K. Dixon, Chief Accountant I
District 5
Johnny N. Sanford, Maintenance Construction Supervisor II
District 15
Roy H. Gregory, Senior Right of Way Engineer
District 20
B. A. Glasscock, Right of Way Agent III
Emanuel D. Parmer, Assistant District Engineer
District 21
Reuben R. Guerra, Supervising Resident Engineer
District 23
William D. Gully Jr., Engineering Technician V

30 Years

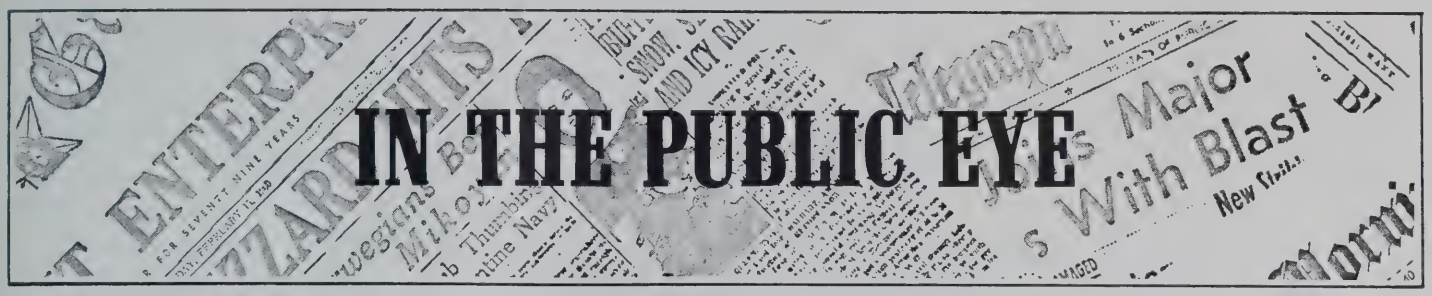
District 1
Roger L. Wiggins, Maintenance Technician II
District 2
Eva L. Smith, Accountant II
District 9
Victor O. Jackson, Engineering Technician II
District 12
Aubrey N. West, Maintenance Technician II
District 20
Hosea L. Acker, Engineering Technician IV

25 Years

Equipment and Procurement Division
Hazel C. Forister, Clerical Supervisor III
Personnel Division
T. C. Julian, Personnel Officer III
Travel and Information Division
Tom H. Taylor, Director
District 2
Raymond H. Bulloch, Engineering Technician V
Joe E. Wakeland, Maintenance Construction Supervisor II
District 3
Thomas H. Sutherland, Senior Resident Engineer
District 4
Thomas E. Brisendine, Engineering Technician IV
District 6
Davis T. Waguespack, Draftsman III
District 8
Ulma H. Mitchell, Maintenance Technician II
District 9
James W. Smith, Engineering Technician IV
District 11
Jewel Askew, Maintenance Technician I
District 12
Clayton P. Poland, Draftsman III
Thomas P. Thompson, Maintenance Technician II
District 13
James O. Mackey, Engineering Technician II
District 15
John J. Fuller, District Designing Engineer
District 18
Hoyt Windham, Maintenance Technician II
District 19
Buren E. Kyle, Maintenance Technician I
Burton A. Moore, Engineering Technician IV
District 22
Elwin C. Fricke, Accountant III
District 24
Manuel A. Duran, Maintenance Technician II

RETIREMENTS

Secondary Roads Division
Robert L. Schmidt, Secondary Roads Administrative Engineer
District 4
Rolla H. Shaller, Engineering Technician III
District 8
William M. Manning, Maintenance Technician II
Don S. Rasberry, Maintenance Technician II
District 10
James A. Brotherton Sr., Maintenance Technician II
District 15
Louis B. Roe, Maintenance Technician II
District 16
James L. Vickers, Maintenance Technician II
District 17
Ansel L. Moore, Maintenance Technician II
District 18
Emmett B. Brown, Maintenance Technician II
District 19
Donnie A. Mauldin, Maintenance Construction Foreman III
District 22
Charles R. Heine, Maintenance Technician II
District 25
Alton A. Whitlock, Maintenance Technician II



Dallas Morning News, with a Fort Worth dateline — A second Dallas-Fort Worth toll road appears likely to become the next major project of the Texas Turnpike Authority despite its desire to achieve a "statewide image."

They say the cold, hard facts of toll-road economics indicate that the Trinity Turnpike would have a greater chance of achieving financial success than other projects which Turnpike Authority officials are considering.

The Turnpike Authority also has asked for preliminary studies to determine whether a Mid-Texas Turnpike would prove practical.

Although feasibility studies have not been completed, officials say the Trinity Turnpike would offer obvious advantages over either the Mid-Texas Turnpike or a Houston-Corpus Christi toll road.

The Trinity Turnpike would be much shorter than either of the other projects and, as a result, would cost less. In addition, it would serve a highly developed and growing area with a heavy concentration of traffic.

Dallas Morning News, with an Arlington dateline — Dallas and Fort Worth, in conjunction with the North Central Texas Council of Governments, are embarking on a project to determine how public transportation facilities can be provided that will guide and control this area's environment.

John Roark, COG's director of transportation, announced that a joint application by the three agencies to the Urban Mass Transportation Administration of the Department of Transportation for federal funding for the $1,275,500 project has been approved.

The 20-month transportation planning program will be initiated with extensive technical studies to conceptualize, plan, and propose the implementation of a regional public transportation system.

Houston Chronicle, with an Austin dateline — Mass transit will have to be subsidized because there is no way it can pay for itself, says Eugene Maier of Houston, chairman of the new State Mass Transportation Commission.

The Texas Legislature needs to give the state money for mass transportation before the state can play any role in coordinating mass transit programs of individual cities, Maier said.

At present, cities are negotiating directly with the federal government for mass transit money with two thirds paid by the federal funds and one third from city funds.

The six-member commission was authorized by the last legislature to help cities fight the growing traffic congestion by developing mass transit systems.

Dallas Times Herald — Newcomers will soon find out that the quickest way to get around this sprawling city is by the expressways.

The newcomer may get lost a few times, but a little exploratory driving and some map reconnaissance will soon dispel the mysteries of the expressway network, and Stemmons, Carpenter, Hawn, Central, and Thornton will become a part of the vocabulary.

Dallas is the major center for interstate, US primary, and state-numbered highways.

Interstate routes 20, 30, 35E, and 45 and IH Loop 635 are here. So are major primary highways such as US 67, 75, and 80. Loop 12 circles the city.

When the interstate highway program is completed, probably four years from now, Dallas County will have 134½ miles of safe freeways.

Marshall News Messenger, in an editorial — Perhaps it's just a result of the hustle and bustle created by our jet-propelled society that each of us is often guilty of not taking the time and effort to express appreciation when it really isn't mandatory to do so.

For that reason, it was refreshing this past week to witness the response of the Texas Highway Commission to a Harrison County delegation that traveled to Austin just to tell the state agency what a great job it is doing in the Marshall area.

In what commission chairman Dewitt Greer termed a "first," the Marshall Chamber of Commerce Highway Committee literally caught state officials flat-footed.

The commission is more familiar with lengthy presentations from delegations from throughout the state who are seeking state-financed road improvements.

"It's nice to be appreciated," was the comment overheard as the Harrison County delegation left the hearing chamber.

San Antonio Express, in an editorial — The administration is cranking up the machinery again for the supersonic transport. The pitch is that the SST is necessary to preserve the aviation industry.

We don't agree with Volpe's contention that the SST must be built to save the aviation industry. This is like saying we must go to Mars to keep the rocket people in business.

We wish Secretary Volpe would be as frugal with the SST money as he has been with funds to build San Antonio's North Expressway.

Wichita Falls Times — Relocation of some 250 families displaced in Kell Freeway right of way purchases has taken up the slack in Wichita Falls' vacant house situation.

The city of Wichita Falls began purchasing property in March 1968 for the freeway. Real estate purchases spurted last year to the highest level since the early 1960s.

Roy Lanford, Texas Highway Department district supervising right of way engineer, said most older persons have chosen to relocate within their neighborhoods while those with several earning years left tend to move into newer areas.

During the quarter ending June 30, the Highway Department was involved in purchase of 50 dwelling units in which 109 persons lived. Twenty-three units were occupied by owners and 27 by tenants.

Says Former BPR Official

mass transit not the answer

"I'm not in step with the new thinking," said the 66-year old A. C. Taylor. "And I believe if a man can't give total commitment to the program, he should get out. I don't say that I'm *right*. I just can't compromise my viewpoint."

Unable to give "total commitment" to the Department of Transportation's changing highway policies, Clason Taylor stepped down June 13 after 45 years with the Bureau of Public Roads. For the last 14 years Taylor was regional federal highway administrator for Texas, Oklahoma, Arkansas, and Louisiana with headquarters in Fort Worth.

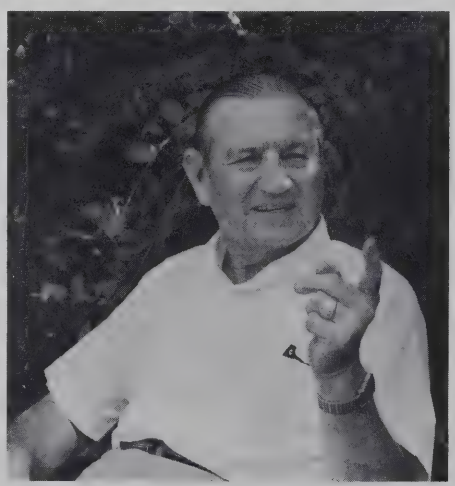
Taylor spoke not with bitterness, but resignation. He was referring to new policies regarding mass transit, environmental factors in planning highways, model cities program, and relocation assistance. He also cited the difficulty of finding qualified employees to meet equal opportunity requirements. Taylor said all these things are good, but that they should be weighed in proportion to their relative importance. He always believed that his first concern was to build the safest, best highway for the least tax dollar.

"Since the formation of the Department of Transportation, there has been, and there will continue to be, a de-emphasis on highways. They're (DOT administrators) not hostile to the highway program. They just have other interests. They're pressing mass transit vigorously. They think it'll help relieve highway congestion, but I don't believe it will.

"Mexico City has a fine mass transit or subway system, and it's good, fast, cheap, clean, and comfortable. It hasn't taken any *cars* off the streets. It may have taken some *people* off the buses. In this country I don't believe you can take people out of cars with mass transit. People like the freedom of movement. We can pretty well determine needs and desires of people with our urban studies, but you can't do it for mass transit."

Taylor said there is an eastern city paying $9 million for a transportation study and "they won't get 10 cents worth out of it." He believes the city would be better off if it worked with the local highway department to solve its transportation problems.

Another criticism Taylor has is that projects have been slowed down tremendously by red tape. He said there are too many agencies today who can say 'no' to a project. "There aren't enough to say 'yes' to a project and to accept the responsibility for it. Sometimes it takes months to get an answer from Washington.



TIME TO RELAX — but not for long, as Taylor points out that his house must be painted before he travels to Mexico this fall. He said he hopes those friends who invited him to go dove hunting have not forgotten about him.

"Too many federal programs have to be sent to Washington now. In the past, the Bureau of Public Roads monitored the spending of funds and saw that the laws were obeyed — and stayed out of the operational end of things. Now there is too much duplication in Washington of the local functions. For example, decisions to take small sections of parks used to be made at the local level. Now such decisions are made in Washington."

Although relocation assistance complicated his job the last few years, Taylor believed it was the right way and the humanitarian way to handle the situation of displacement.

"I've always believed it was unfair to move people from their homes, people who might have lived their lives in one place," he said. "We'd have been better off years ago if we had paid the price for replacement housing, although it may have seemed exorbitant at the time."

Taylor, who graduated from Texas A&M in 1924 with a BS in civil engineering, joined the Bureau of Public Roads that year. He worked one year (1929-30) with the Texas Highway Department. From 1933 to 1936, he was stationed in Austin. In 1936 he was transferred to Washington where he directed road-building programs in foreign countries, including the beginning of the Pan American Highway, highway projects in Ethiopia, and in the Philippines where, after World War II, he helped to rebuild that coun-

BON VOYAGE, CLASON — At Taylor's huge retirement party, three bureau friends gather to bid farewell. From left they are E. H. Swick, deputy director, Bureau of Public Roads; Taylor; J. C. Crowley, acting federal highway administrator (replacing Taylor); and Henry Bremer, planning and research engineer. During the retirement dinner, Swick told the crowd that Taylor's last official act was to raise hell with Washington over delays of some highway projects.

try's roads and organized their highway department. When he left the Philippines, he was given the Philippine Legion of Honor (officer grade).

In 1956 Taylor returned to his hometown of Fort Worth to head the four-state regional office and to initiate the Interstate program. In 1964 he was named one of the Top Ten Public Works Men-of-the-Year. In the last few years, he spent about half his time traveling the region.

Although he still had three years until mandatory retirement, Taylor announced his retirement effective June 13. On June 20 his co-workers honored him with a farewell dinner at Green Oaks Inn, where some 170 persons gathered in tribute.

He was presented a shotgun, plaques, certificates (one as an admiral in the Texas Navy), a six-gun tie tack, and three large scrapbooks full of letters from his friends. Jim Crowley, acting regional director, presented the shotgun. (Taylor is an avid skeet shooter and dove hunter.)

After his retirement, Taylor reminisced about his career, and made some comments about the Texas Highway Department.

"Texas has done a fine job in the safety field with their development of breakaway sign supports and 'crash cushions.' You know, we could reduce fatalities by 5,000 each year if we'd push this sort of thing.

"Texas has the finest maintenance of any state I've ever seen. And I think a lot of it is the old boys who are dedicated and innovative, and who make a lot of their own equipment. Not many states have that kind of organization."

What about criticism that highway engineers seem bent on bulldozing everything out of the way and paving over the nation with concrete?

"Engineers do not initiate programs," asserted Taylor. "The *people* request highways. Right now there are five times more requests for highways than we can build. Yet we, as an engineering group, get blamed for wanting to cover up the nation with concrete. Actually, we're being responsive to the people's wishes."

Taylor said it would be disastrous if highways are neglected now for mass transit systems. He said it took 10 years after World War II to repair roads that had been neglected during the war.

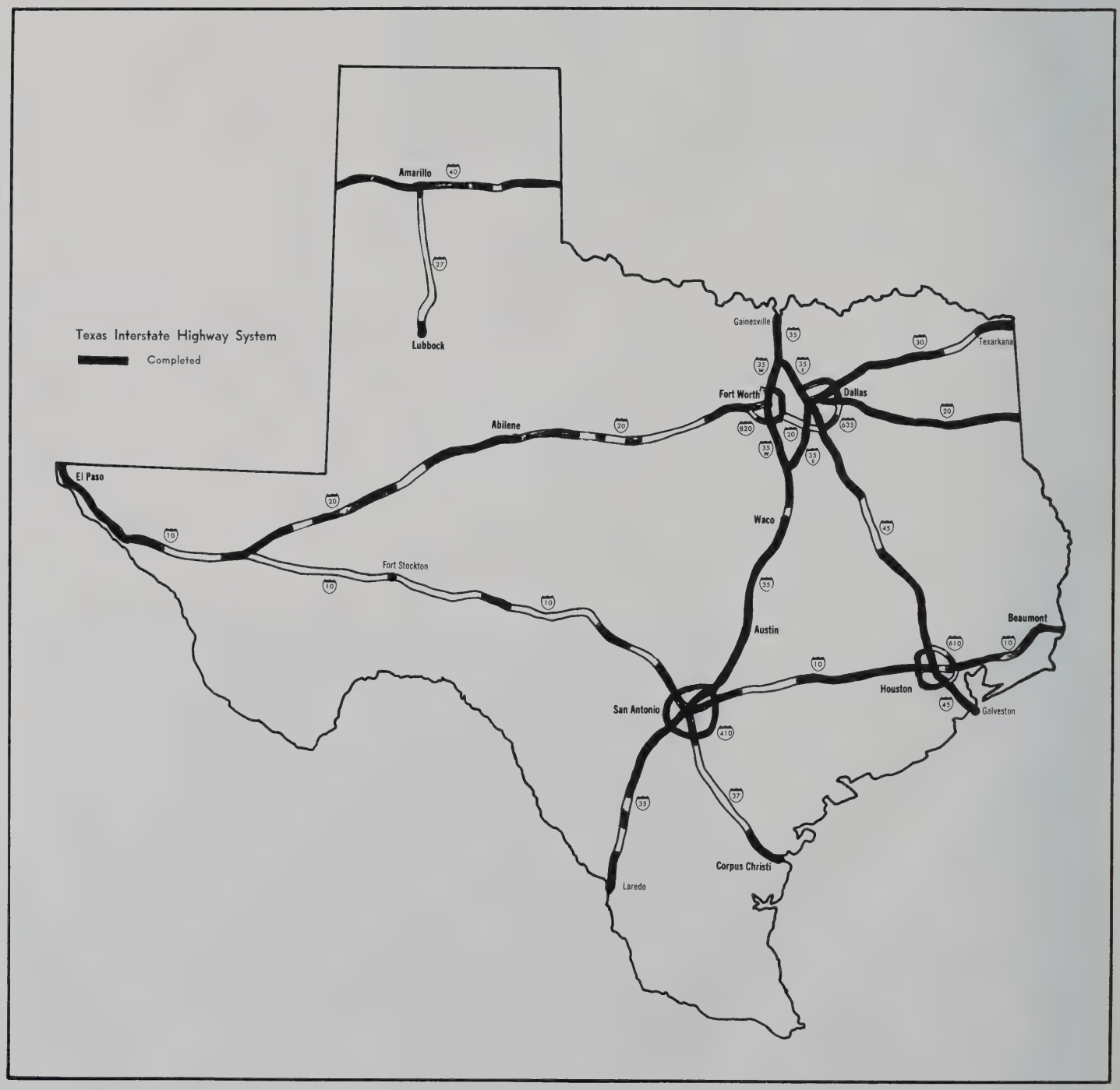
There are forces inside and outside the Department of Transportation, he warned, who are trying to divert money from the Highway Trust Fund for other purposes.

"We don't have enough in the trust fund now. I think the Texas Highway Department should encourage its engineers to get out and talk to the people *now* — to schools, clubs, civic organizations. I believe the 'silent majority' is for highways, but they need to *speak up.*"

—Frank Lively

THANKS, FELLAS — Taylor examines the shotgun given him at his retirement party. J. C. Crowley (left) made the presentation and Tony Leone, regional bridge engineer, was master of ceremonies.

Texas Tops in Interstate



THE INTERSTATE HIGHWAY SYSTEM is adding a new dimension to highway transportation in Texas and across the nation. Although only 70 percent complete, it is already being hailed as one of America's finest assets, a wise investment, and the largest domestic public works program in the history of the world.

The safe, swift, and efficient travel provided by the system is more than evident in Texas. As of May 31, the Lone Star State had more miles of Interstate open to traffic than any other state will have when the giant system is completed in the late 1970's.

Texas tallied some 2,283.84 miles of Interstate open to traffic, or exactly 2.84 miles more than California (with the second largest designated mileage) will have when the network is complete.

The Bureau of Public Roads reported March 31 that California had 1,632 miles open to traffic of a 2,281-mile designated system. The Texas mileage includes sections of Interstate complete to full standards deemed adequate for present traffic volume. The designated system in Texas will total 3,176 miles — more than any other state. And, based on 1970 needs, it will take approximately $1,118,850,000 to complete the superhighway system in Texas to full Interstate standards.

While the motor vehicle registration continues to increase (Texas gained 362,702 vehicles in 1969 for a total of 6,506,385, not including motorcycles or trailers), the importance of the Interstate highways to the state and nation become more evident.

Department of Transportation statisticians recently estimated that Interstate drivers have and will save "hundreds of billions of dollars" from 1956 when the system got underway to 1979 when it is expected to be completed. Here are some of their calculations:

- The reduction in starts, stops, etc., means less fuel and oil consumption, less tire wear and maintenance. Urban Interstate driving saves you two cents a mile; on rural stretches, you save 1.5 cents a mile. Over the 23-year span from 1956 to 1979, this adds up to $45.8 billion.
- The Interstate system is almost twice as safe as the older roads. This means fewer accidents, fewer repair bills, hospital costs, etc. These savings are figured at $15.8 billion for the 23-year period.
- The Interstate also is a great time-saver and time is valuable. The statisticians figure time saved for trucks is worth $5.56 an hour, and over the time span this adds up to another $45.8 billion.
- All this totals up to savings of $107 billion or $37 billion more than current estimates of what the 42,500-mile system will cost when it's completed.
- How about the drivers and passengers of cars? If you figure their time is worth, on the average, $1.50 an hour, then add another $166 billion saved for a total of $212 billion. At $3 an hour, which approximates the nationwide average wage, driver-passenger benefits would climb to $331 billion for a total of $377 billion.

"These figures are impressive, of course, for they demonstrate that the highway user is one taxpayer who gets his money back with interest," said F. C. Turner, federal highway administrator.

Once completed, transportation authorities estimate the system will carry more than 20 percent of the nation's traffic on a little more than 1 percent of the country's roads.

Last year 22 percent of all vehicles in Texas used the completed Interstate highways while 78 percent of the traffic used state, urban, or rural thoroughfares. ■

WHERE WE STAND

(As Of May 31, 1970)

Interstate Route No.	Miles Completed	Miles Under Construction	Miles To Be Constructed	Route Totals
IH 10	513.70	142.12	222.17	877.99
IH 20	487.24	88.45	54.01	629.70
IH 27	12.90	0	112.10	125.00
IH 30	131.65	33.59	4.95	170.19
IH 35 & 35E	420.19	13.23	70.97	504.39
IH 35W	76.76	1.73	6.72	85.21
IH 37	40.36	21.17	81.42	142.95
IH 40	100.75	25.15	50.86	176.76
IH 45	225.96	39.90	19.16	285.02
IH 110	0	.52	.42	.94
IH 345	0	1.26	0	1.26
IH 410	49.16	0	0	49.16
IH 610	26.10	9.56	2.39	38.05
IH 635	24.16	16.12	0	40.28
IH 820	27.87	0	21.42	49.29
TOTALS	2,136.80*	392.80	646.59	3,176.19

*This represents Interstate mileage completed in Texas since the program was approved in 1956. It does not include some 150 miles built prior to 1956 with 50-50 funds and later incorporated into the Interstate system.

To and From Our Readers

Highway Week

National Highway Week will be observed in Texas and across the nation September 20-26. The theme for this year's week-long observance is "Highways Serve You." Sponsored in the Lone Star State by the Texas Good Roads Association, the week spotlights the Highway Department and its efforts to provide a safer more convenient highway system for motorists.

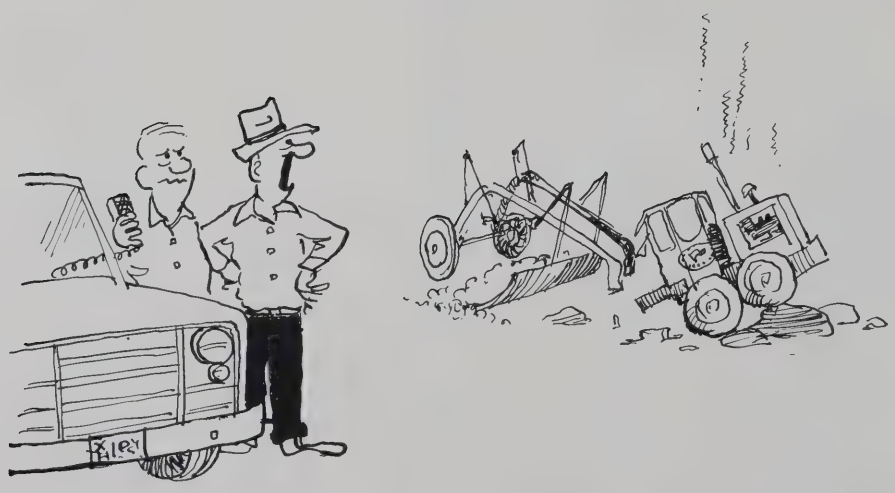
Dingwall Urges Participation

State Highway Engineer J. C. Dingwall has urged all Highway Department employees to participate in their Texas Public Employees Association activities. In a recent letter to Jerry Wall, president of the Austin Chapter of TPEA, Dingwall wrote:

"It has come to my attention that some employees of the Highway Department are considering dropping their membership in the Texas Public Employees Association because of the insurance program initiated recently by the Department. This is a matter of deep concern to me.

"Involvement and participation by state employees in TPEA affairs, as their time permits, is healthy both for the state and the employee. A sound and reasonable approach to better government and improvement of working conditions will benefit everyone.

"The strength and influence of TPEA is in direct ratio to membership, and we urge all Highway Department employees to remain active members of the organization."



K. McCollum

"YA MIGHT BREAK THE NEWS GENTLY BY ASKING HIM IF EQUIPMENT NO. SO AND SO WAS BOUGHT UNDER ANY KIND OF A MAINTENANCE CONTRACT!"

Community Pride

Kenneth Collinsworth reminded everyone in the July issue of *Texas Highways* that some industrious person has already been nominated for the Lady Bird Johnson Beautification Award. But, like "Fezby," the Sweetwater Maintenance Section is still beautifying its facilities. And it has paid off, too. They are displaying a colorful yard and in the middle of it stands a sign naming them tops in community pride.

On July 17 the Sweetwater Chamber of Commerce selected the maintenance section as recipient of the city's first "Community Pride Award," and a delegation from the chamber presented the award to section employee Willie O. Harris, who had done much of the yard work.

The section was selected tops in appearance over other businesses in Sweetwater that are located in non residential areas and display a significant effort toward beautifying the city.

"Ernest Shuler, Sweetwater maintenance foreman, Willie O. Harris who maintains the grounds, and the other members of this section are to be congratulated," said Abilene District Engineer J. C. Roberts.

"It is easy to beautify something

TEXAS HIGHWAY COMMISSION

D. C. GREER — Chairman
HERBERT C. PETRY JR. — Member
GARRETT MORRIS — Member
J. C. DINGWALL — State Highway Engineer

Texas Highways

TEXAS HIGHWAYS, official journal of the Texas Highway Department, is published in the interest of highway development in Texas and for departmental education in construction, maintenance, and operation.

TEXAS HIGHWAYS is available to the general public on a subscription basis at $4.50 annually, or it can be purchased for 40 cents a copy. Subscriptions, inquiries, material, or manuscripts should be directed to the Editorial Office, Travel and Information Division, Texas Highway Department, Austin, Texas 78701 •

new and put forth efforts to have a 'show place.' However, this is not the case with the maintenance section in Sweetwater," he said. "Even though land has been purchased and plans are being drawn for a new building, these men take great pride in their old building and their place in the community, as this award so ably demonstrates."

Action Not Words

Austin District Engineer T. K. Wood received the following letter recently from Gordon Carlson, mayor of Manor, praising highway improvements made in the city on US 290. Explaining that the changes will unquestionably help prevent accidents, the mayor also had some other kind words for the Department.

"These days there is much publicity and much conversation emanating from national and state governmental levels about aid to small cities, but as far as the small cities that most need help are concerned, it is mostly conversation with no action," Carlson wrote. "I have told representatives of the Governor's office, and I am reiterating by sending them a copy of this letter, that as far as Manor is concerned the Texas Highway Department is the only governmental entity we have dealt with that is actually concerned or that will actually try to do anything within their limits to be of help to our small town.

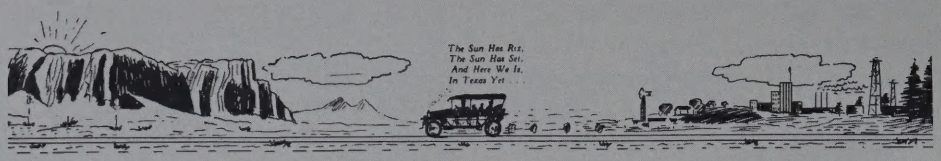
"It is always a privilege to deal with and to work with you and all of your employees. I assure you all that you are appreciated."

Outstanding, Just Outstanding

Richard L. Johnson, a senior resident engineer in Eastland, has been named that city's "Outstanding Young Man" for 1970. The award was presented to Johnson at the Eastland Jaycee's annual officer installation banquet. A native of Lampasas and graduate of The University of Texas school of engineering, Johnson was presented the award for his civic and religious work in Eastland.

SAFETY PAYS — Joe D. Keeton, a District 12 maintenance technician, will quickly tell you that it does. He was driving this dump truck when it overturned in the right of way recently near Houston. The accident occurred when an oncoming vehicle veered into Keeton's lane and he swerved to avoid a headon collision. The highwayman suffered only minor bruises and scratches. A seatbelt, a safety hat, and quick reflexes were credited with saving him from serious injury or death, said District Engineer W. E. Carmichael.
Photo by J. J. Polasek

RECORD FOR EXPERIENCE?—Following a district supervisory personnel meeting in Lufkin recently, J. M. York, district engineer, noted that the men gathered for the meeting were probably unique as a group. "This group represents 798 years of service with the Department, or an average of 27.7 years of service," said York. "I doubt that any other district can meet or exceed this record." First row, (left to right) are York, R. L. Rothe, W. L. Stockton, Frank Gallaway, Sam Frizzell, Norris Bryan, James Crowe, J. L. Beaird, and Jay Wingate. Back row (left to right) are Tom Quinn, C. A. Cook, J. S. Kendrick, Julius Dominy, Joe King, George Locklin, Iverson Evans, Lynn Hill, A. V. Pickard, J. B. McDaniel, A. W. Cockrell, C. E. Baldree, H. V. Harlan, Luther Swift, J. N. Dominey, A. J. Pringle, Bob Walker, H. H. Melton, Printes Chandler, and C. T. Currie (not pictured).



OVER THE HIGHWAYS

• About a month ago we had the pleasure of meeting Frank Faris of Georgetown.

The circumstances were irritating to us since our car's water pump had gone out. Mr. Faris came along and was most helpful and hospitable.

Because of Texas' excellent highway system, accommodations, and men like Mr. Faris, it is a joy to travel the state, and one of many reasons we are glad to be back in the good old USA after a two-year absence.

Captain and Mrs. John Edwards
Universal City

(Editor's Note: Frank Faris is the supervising resident engineer in Georgetown.)

(Editor's Note: Waco District Engineer Elton B. Evans clipped the following story out of the Waco Tribune. *It concerns a District 9 employee, W. V. (Dub) Harris, an engineering technician III in the district laboratory.)*

• "It was hotter than blazes Friday afternoon when Mrs. Ralph Kron's car broke down 18 miles south of Waco. Mrs. Kron had been in Temple visiting her husband, a patient in the Veteran's Administration Hospital there.

"On the way home the car quit on her. She waited. One hour. Two. It kept getting hotter, but no one stopped.

"The first person to stop after more than two hours was W. V. Harris, an employee of the Texas Highway Department. Mrs. Kron wishes there were more people in the world like him.

"Harris tried for 45 minutes to start the car, but without success, she said, then called for a tow truck over his automobile phone unit. He came to her aid with ice water, too.

" 'Thank God for a Good Samaritan,' Mrs. Kron said."

•This is a very lovely rest area. One of the few between here and Colorado Springs. Thanks for the convenience for someone so far from home.

Mrs. W. E. Knowles
Colorado Springs, Colorado

(Editor's Note: The Department receives all types of notes from tourists, but this one has to be the most unusual to date. It was printed on a piece of tissue and left in a comfort station on IH 35 south of Gainesville.)

• My husband and I want to commend your Department and your men for the help, courtesy, and hospitality shown us on June 15, 1970. We had car trouble on IH 20 near Waskom, and two of your men stopped to help us.

These men took time from their work to help and refused pay. More people should be like these two men from your Department. Thank you, Texas, for your kindness.

Mr. and Mrs. Frank Douglas
Trenton, Michigan

(Editor's Note: The two men who helped the out-of-state couple were Odis Lee McFadden and Alford Roe, both of the Carthage Maintenance Section.)

• On a recent visit to my native state (Texas) we stopped at a park or rest area between Cleburne and Fort Worth. My already deep pride in the state was further enhanced. The park's grass and shrubs were well kept, the rest room facilities were immaculate, towel dispensers were full, and litter receptacles were some of the best I have ever seen.

We had much to say about it all, and I resolved to write someone upon my return to our present home. I am proud of Texas! No other state compares with it.

Mrs. W. A. Pile
Nashville, Tennessee

(Editor's Note: The following letter was received by Tyler District Engineer W. W. Potter after he returned a purse that he and Mrs. Potter found on IH 20 in Kaufman County.)

• This is to let you know that I received your letter and my purse.

My husband and I wish to extend our sincere appreciation for the kindness and thoughtfulness you have shown us. Your act of honesty has taught our three sons a valuable lesson.

If everyone followed your example, the world would be a better place to live in.

Mr. and Mrs. P. E. Clement
Metairie, Louisiana

• This letter is to show our gratefulness and gratitude for the aid of one of your employees.

Traveling near Dell City, our thermostat stuck and our radiator water boiled out. One of your employees, Ben Sanders, came by, stopped, and gave us some water.

A few miles down the road we had to stop again. He noticed us and came to our aid again. Such a thoughtful and courteous person is bound to be an asset to the Department.

Robert F. Ervin
El Reno, Oklahoma

(Editor's Note: Sanders is an employee of District 24. He works in the Pine Springs camp.)

Photograph by Frank Kelly

Colorful flowers aren't the only attractions at the Lampasas County resident engineer's office. Barbara Goodwin adds a big smile and a pleasant hello for visitors. A clerk-receptionist at the residency, Barbara says she enjoys her work, but also rates cooking and housekeeping high on her list. "I guess you could call that taking care of your husband."